AGRICULTURE DRAINAGE WELL CLOSURE PROJECT JOINT DRAINAGE DISTRICT 1-10 HUMBOLDT AND WEBSTER COUNTIES

FINAL REPORT

An alternative drainage outlet for 19 Agricultural Drainage Wells (ADW's) has been successfully installed for the Joint Drainage District 1-10 located in Humboldt and Webster Counties
The WIRB funding in conjunction with funds received from the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation, Agriculture Drainage Well Closure Funds allowed the landowners to receive 75% cost-share to close the 19 wells within the 4500 acre watershed and drain them to an alternative outlet, therefore improving the ground water quality of Humboldt and Webster Counties.

The following report will summarize the financial, environmental, and program accountability of the project.

FINANCIAL ACCOUNTABILITY

Watershed Improvement Funds			
Grant Agreement Budget Line Item	Total Funds Approved ($)	Total Funds Expended ($)	Available Funds ($)
Easements/Crop Compensation	28,908.00	31,798.80	(2,890.80)
Engineering	16,031.00	17,634.63	(1,603.63)
Legal/Publication	2,234.00	446.42	1,787.58
Reclassification /Drainage Assessment	2,760.00	1,885.19	874.81
Alternate Drainage Outlet / Construction	422,735.00	373,815.14	48,919.86
Interest	27,332.00	21,692.73	5,639.27
TOTAL	500,000.00	447,272.91	52,727.09

Explanation:
Unspent balance = bid was lower than estimated cost

TOTAL PROJECT FUNDING

Funding Source	Cash	
	Approved Application Budget ($)	Actual ($)
WIRB	500,000	447,272.91
IDALS	900,000	842,813.28
Landowner	502,574	475,493.92
TOTAL	1,902,574	1,765,580.00

Watershed Improvement Fund contribution: Approved application budget: 26%
Actual: 25%

PRACTICES AND ACTIVITIES

Practice / Activity	Unit	Application Goal	Accomplishments	Percent completed	Comments
Preliminary Engineering Plan presented at formal hearing	NO	1	Completed on 9/18/2006	100%	
Bid Letting	NO	1	Held on 10/23/2006	100%	
Well Closure	NO	20	19 wells closed	100%	20 wells were estimated to be located within the watershed---only 19 wells actually existed
Pipe Installed	FT	48,000 ft estimated	49,119 ft installed *see detail below	102%	
Reclassification of Drainage District	NO	1	Report approved at 6/2/2008 County Supervisors meeting	100%	

- ✓ Pipe footages installed are as follows:

12" RCP	18,973 LF
15" RCP	3,648 LF
18" RCP	5,392 LF
24" RCP	2,946 LF
30" RCP	6,746 LF
36" RCP	966 LF
42" RCP	10,448 LF
Total =	49,119 LF

Note: Pipe quantities include 1,792 lineal feet installed with sealed joints through wetland mitigation site.

PROGRAM ACCOUNTABILITY

As a result of the project 19 wells have been closed and no longer discharge into the aquifer. This eliminates the potential for contamination to the groundwater such as nitrates, pesticides, bacteria and sediment, therefore improving the ground water quality within Humboldt and Webster Counties. The annual report for the Gilmore City Drainage Research and Demonstration Facility states that approximately 30- 40 lbs. of nitrogen per acre is lost through tile drainage systems. The closure of the ADW's in the 4500 acre project watershed results in approximately 135,000 – 180,000 lbs. of N not being delivered to the aquifer.

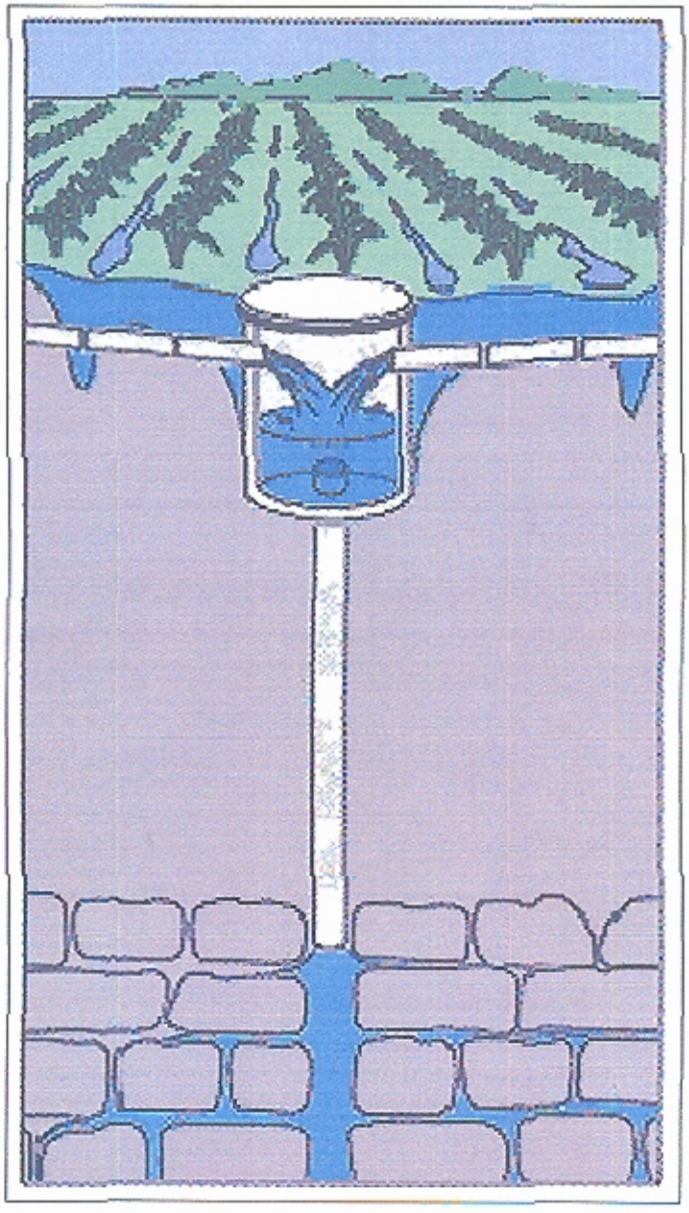
The improved drainage as a result of the project helps to increase the productivity of the farmland located in the project area by increasing cropland yields, this in turn will increase the value of the farmland.

Since this was a drainage project and was located within a drainage district certain policy and procedures needed to be followed to comply with the appropriate laws. All the engineering, design and survey work was completed by a licensed professional engineer. The engineering firm Jacobson and Westergard & Associates, INC completed all the engineering for the project as well as the reclassification of the drainage district. The installation of the tile and the closure of the ADW's was completed by a private contactor hired by the drainage district trustees (County Board of Supervisors) per drainage district policy. The bid letting was held 40 days after the engineering report was first presented, October 23, 2006, and the project was awarded to the lowest bidder. The installation of the pipe and closure of wells started the fall of 2006 and was completed the summer of 2008. The county board of supervisors and drainage clerk conducted all public hearings and filed all public notices.

In conjunction with the ADW closure and alternative outlet work a wetland mitigation area was created within the watershed to replace the farmed wetlands that were drained as a result of the project. Humboldt County owns an 80 acre tract in the watershed which was enhanced to provide a wetland mitigation site. This enhanced site provided mitigation credits for the wetlands that were drained by the tile main installed for the project. Being able to provide landowners an option for mitigation within the same watershed was favorably received by the county and government agencies.

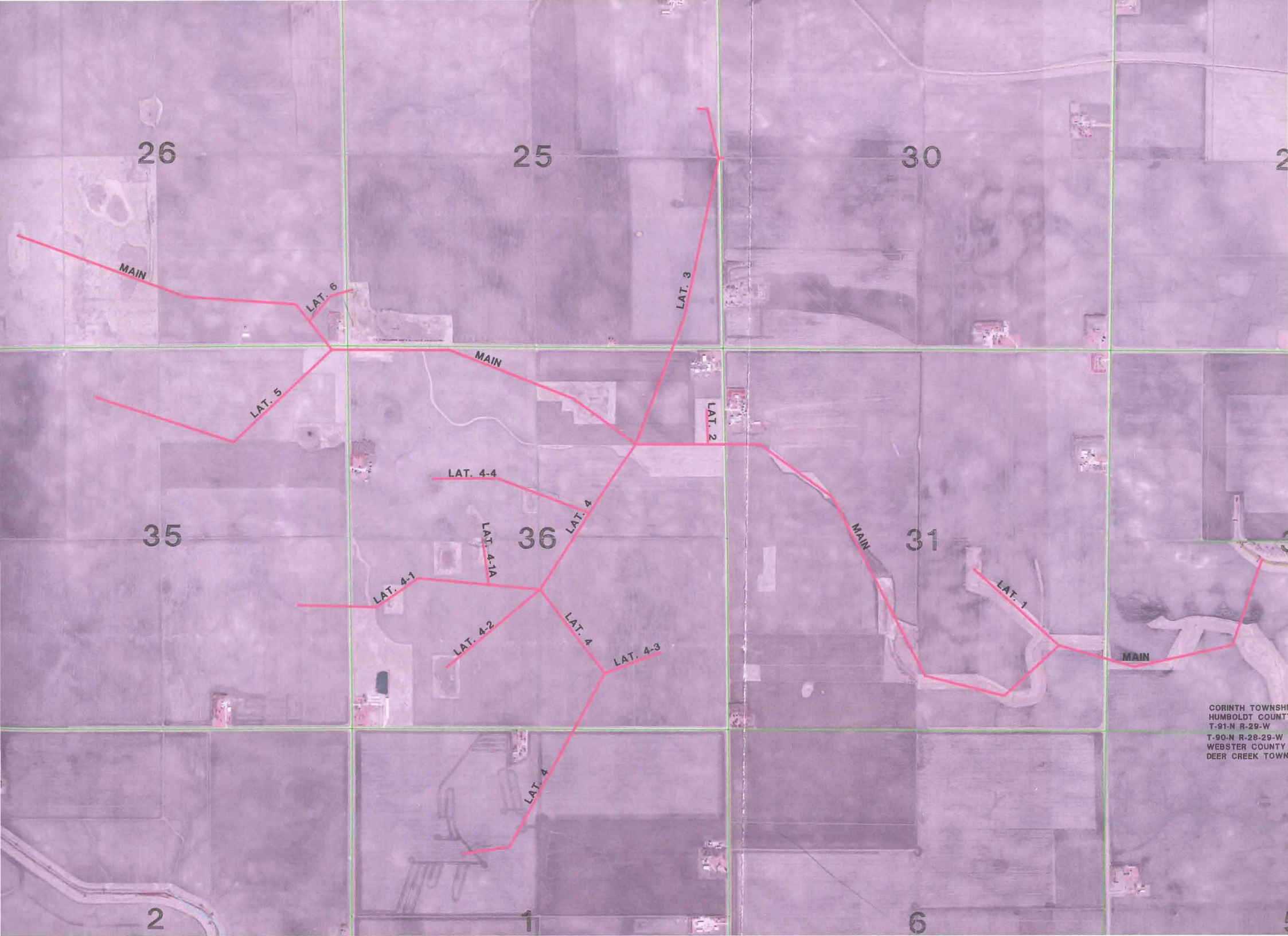
Overall the project was very well received by all partners involved. The project also helps the Humboldt SWCD to achieve one of their goals to improve water quality by closing ADW's in the county. The well closures also help to satisfy the Iowa Senate File 473 and the 1987 Groundwater Protection Act which legislate the use and closure of ADW's.

AGRICULTURAL DRAINAGE WELL



Example of a working Agricultural Drainage Well

Ag Wells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MAIN
LAT. 6
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MAIN
LAT. 3
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LAT. 4-4
LAT. 4
LAT. 4-1A
LAT. 4-1
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LAT. 4-3
LAT. 4
MAIN
LAT. 1
MAIN
CORINTH TOWNSHI
HUMBOLDT COUNT
T-91-N R-29-W
T-90-N R-28-29-W
WEBSTER COUNTY
DEER CREEK TOWN